

## ALL FIBER POLARIZATION SCRAMBLER and CONTROLLER

18° resolution, 1.125° resolution with 1/16 microstepping  
 Fiber type: Operating wavelength from 400nm to 2µm  
 SM1300-1550, SM800 stocked  
 Fiber length: Minimum depending on fiber diameter and configuration  
 No maximum, 1m pigtails standard  
 Multiple modules daisy chained on a single fiber  
 Permissible laser power: Same as fiber  
 Insertion loss: <0.2dB  
 Activation Loss: Depending on inter-motor fiber length  
 PMD: <3fs  
 PDL: Depending on configuration <0.02dB to extremely low

Scrambling amplitude: 1.125° to 360°  
 Mechanical scrambling speed: 0 to >200rad/s

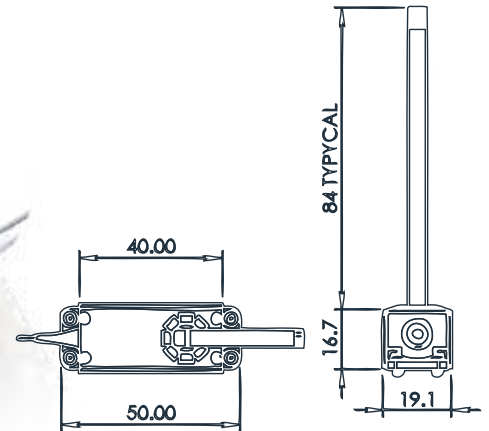
Fully customizable  
 Open Source firmware and electronics  
 OEM, evaluation kit or instrument versions

Field replaceable fiber with  
 optional tooling

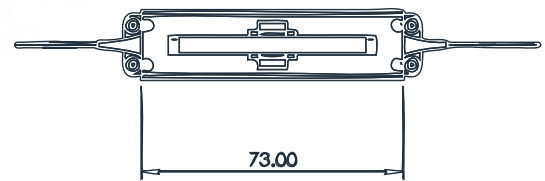
**US Patent 8,373,852**

MODEL GIG-2102

MODEL GIG-2101



SINGLE MOTOR  
125µm FIBER



DOUBLE MOTOR  
125µm FIBER

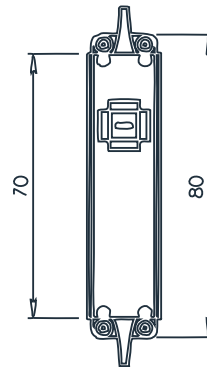
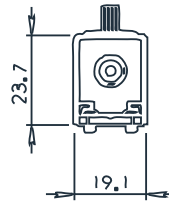
## ALL FIBER POLARIZATION CONTROLLER and SCRAMBLER HIGH RESOLUTION

All fiber, low loss  
 0.1125° resolution, stepper motor operation  
 Wide operating wavelength range: 400 nm to 1550 nm and beyond SM fibers available  
 Multiple modules can be daisy chained on a single fiber

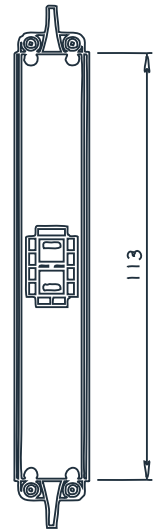
Insertion loss: <0.2dB  
 PMD: <3fs  
 PDL: Depending on configuration <0.02dB to extremely low  
 Adjustable element retardance  
 Any number or retardance elements per fiber  
 Fully customizable

**Available as:**  
 OEM Module  
 Open Source Reference Design  
 Compact Instrument  
 USB Interface

**Applications:**  
 Industrial OCT  
 Medical OCT  
 Laser control  
 Lefebvre Loops replacement  
 T&M



SINGLE MOTOR  
ANY FIBER



DOUBLE MOTOR  
125um FIBER



GIG-2201

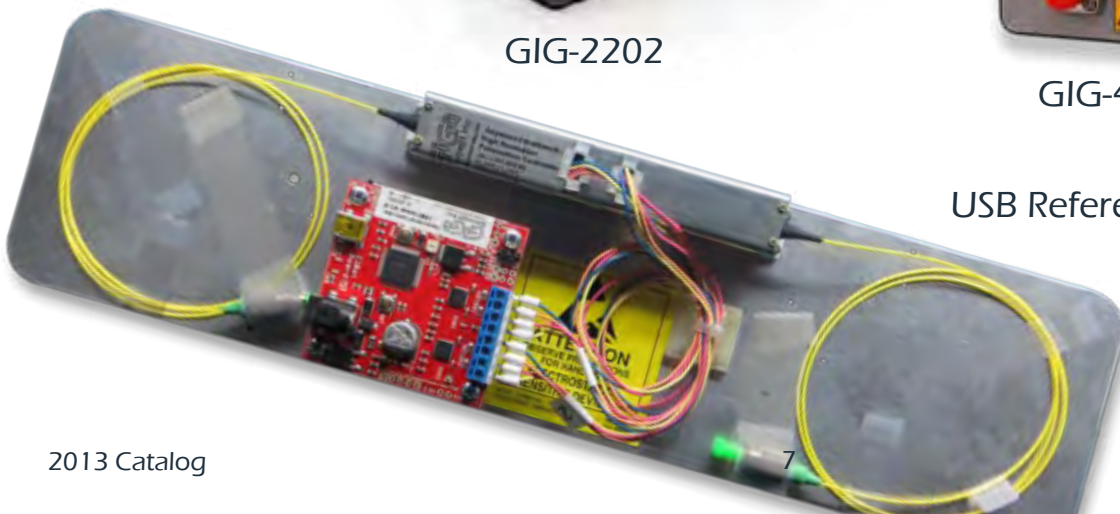


GIG-2202



GIG-4202

USB Reference Design



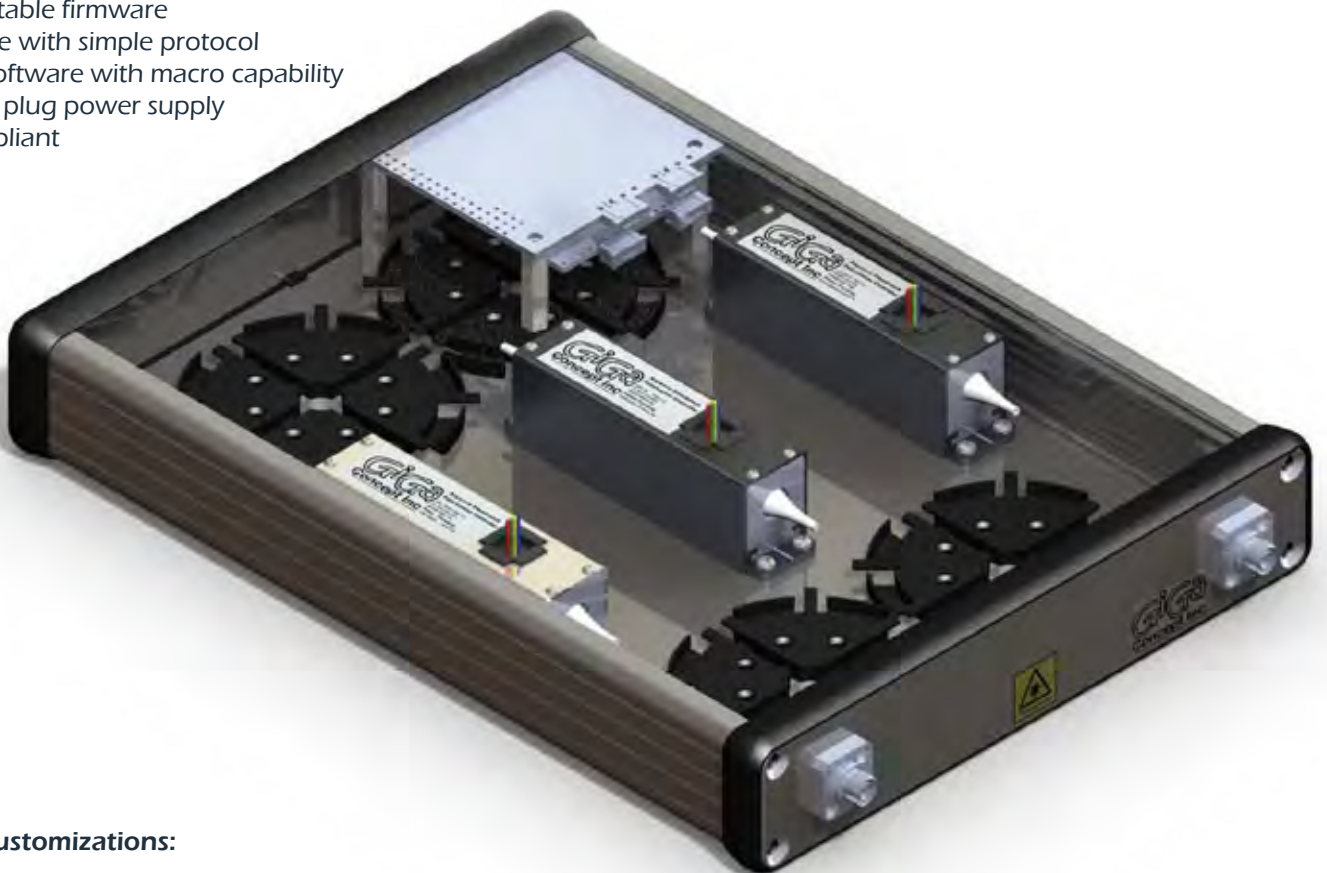
## HIGH RESOLUTION INSTRUMENT ALL FIBER POLARIZATION SCRAMBLER and CONTROLLER

### Optical specifications:

All fiber Spliceless Optical signal path  
Polyimide coated SM fiber  
Available wavelengths 400nm to 1610nm  
Low Insertion loss: Typ. <0.2dB, 0.5dB Max.  
Activation loss: Depending on inter-motor fiber length <0.05dB to <<0.0001dB is possible  
PMD: <3fs  
FC/APC connectors or custom

### Electrical specifications:

Integrated microcomputer control  
Field updatable firmware  
USB remote with simple protocol  
Terminal software with macro capability  
9VDC wall plug power supply  
RoHS compliant



### Possible customizations:

Fiber: User defined operating wavelength  
Connectors: User defined  
Compensation fiber: equal length patch cord  
Custom software functions

MODEL GIG-4203

**US Patent 8,373,852**

